

What is claimed is:

1 1. A method of determining a status of a peer protocol initiated on a plurality
2 of members of a group in a clustered computer system, the method comprising:
3 (a) locally tracking protocol progress information within each member
4 of the group; and
5 (b) responding to a query directed to a selected member of the group
6 by providing the protocol progress information locally tracked by the selected
7 member.

1 2. The method of claim 1, wherein locally tracking protocol progress
2 information includes tracking, within a first member of the group, acknowledgment
3 (ACK) messages directed to the first member by each other member of the group.

1 3. The method of claim 1, wherein locally tracking protocol progress
2 information includes:
3 (a) tracking, within a first member of the group, a current
4 acknowledgment (ACK) round for the first member, the current ACK round
5 associated with a current peer protocol being processed by the first member;
6 and
7 (b) tracking, within the first member, a last ACK round received
8 parameter associated with each other member of the group, the last ACK
9 round received parameter for each other member identifying a peer protocol
10 associated with a last received ACK message from such other member.

1 4. The method of claim 3, wherein locally tracking protocol progress
2 information further includes updating the current ACK round for the first member in
3 response to receipt of ACK messages for the current peer protocol from all other
4 members of the group.

1 5. The method of claim 1, wherein locally tracking protocol progress
2 information includes updating the protocol progress information for a first member of

3 the group in response to receipt of an acknowledgment (ACK) message directed to the
4 first member.

1 6. The method of claim 1, further comprising:

2 (a) waiting on a resource required by a protocol being processed on
3 the selected member; and

4 (b) monitoring for receipt of the query by the selected member while
5 waiting on the resource.

1 7. The method of claim 6, wherein the protocol is a peer protocol, and
2 wherein waiting on the resource includes waiting for receipt of an acknowledgment
3 (ACK) message directed to the selected member.

1 8. The method of claim 6, wherein the protocol is a local protocol, and
2 wherein waiting on the resource includes waiting on a local resource requested by the
3 selected member.

1 9. The method of claim 8, wherein the local resource is selected from the
2 group consisting of a lock and a creation of a new job.

1 10. The method of claim 6, wherein waiting on the resource includes waiting
2 for receipt of a message by a local message queue for the selected member, and
3 wherein monitoring for receipt of the query includes monitoring the local message
4 queue for receipt of a query message.

1 11. The method of claim 1, wherein locally tracking protocol progress
2 information within each member of the group includes locally tracking within the
3 selected member protocol progress information associated with at least one other
4 member in the group.

1 13. The method of claim 1, wherein locally tracking protocol progress
2 information within each member of the group includes locally tracking within each
3 member protocol progress information associated with each other member in the
4 group.

1 14. An apparatus, comprising:

2 (a) a memory; and

3 (b) a program resident in the memory, the program configured to
4 determine a status of a peer protocol initiated on a plurality of members of a
5 group in a clustered computer system by locally tracking protocol progress
6 information within at least one member of the group, and providing the
7 protocol progress information locally tracked by a member of the group in
8 response to a query directed to such member.

1 15. The apparatus of claim 14, wherein the program is configured to locally
2 track protocol progress information by tracking, within a first member of the group,
3 acknowledgment (ACK) messages directed to the first member by each other member
4 of the group.

1 16. The apparatus of claim 14, wherein the program is configured to locally
2 track protocol progress information by tracking, within a first member of the group, a
3 current acknowledgment (ACK) round for the first member, and tracking, within the
4 first member, a last ACK round received parameter associated with each other
5 member of the group, wherein the current ACK round is associated with a current
6 peer protocol being processed by the first member, and wherein the last ACK round
7 received parameter for each other member identifies a peer protocol associated with a
8 last received ACK message from such other member.

1 17. The apparatus of claim 14, wherein the program is further configured to
2 wait on a resource required by a protocol being processed on the selected member,
3 and monitor for receipt of the query by the selected member while waiting on the
4 resource.

1 18. The apparatus of claim 17, wherein the protocol is a peer protocol, and
2 wherein the program is configured to wait on the resource by waiting for receipt of an
3 acknowledgment (ACK) message directed to the selected member.

1 19. The apparatus of claim 17, wherein the protocol is a local protocol, and
2 wherein the program is configured to wait on the resource by waiting on a local
3 resource requested by the selected member.

1 20. The apparatus of claim 17, wherein the program is configured to locally
2 track protocol progress information by locally tracking within a first member protocol
3 progress information associated with at least one other member in the group.

1 21. The apparatus of claim 17, wherein the program is configured to locally
2 track protocol progress information by locally tracking within each member protocol
3 progress information associated with each other member in the group.

1 22. A clustered computer system, comprising:

2 (a) a plurality of nodes coupled to one another over a network;

3 (b) a plurality of member jobs defining a group and configured to be
4 executed by at least one of the plurality of nodes; and

5 (c) a program configured to be executed by at least one of the plurality
6 of nodes to determine a status of a peer protocol initiated on the plurality of
7 members by locally tracking protocol progress information within at least one
8 member of the group, and providing the protocol progress information locally
9 tracked by a member of the group in response to a query directed to such
10 member.

(a) a program configured to determine a status of a peer protocol initiated on a plurality of members of a group in a clustered computer system by locally tracking protocol progress information within at least one member of the group, and providing the protocol progress information locally tracked by a member of the group in response to a query directed to such member; and

(b) a signal bearing medium bearing the program.

26. The apparatus of claim 25, wherein the resource is selected from the group consisting of a local resource and an acknowledgment (ACK) message.